

CLAIMS:

1. A method of determining a disconnection time information (DTI) which is significant for a disconnection period (DT), in which disconnection period (DT) an integrated circuit (2) of a data carrier (1) designed for contactless communication with a communication partner device has not been adequately supplied with power by means of a power supply field, wherein at least one first storage capacitor (C1) of the integrated circuit (2) is charged while the integrated circuit (2) is being adequately supplied, and wherein the at least one first storage capacitor (C1) is discharged from a first starting time (t1) when the integrated circuit (2) is subsequently no longer adequately supplied, and wherein the disconnection time information (DTI) is determined on the basis of the discharge behavior, which is affected by the IC material and by radiation, of the at least one first storage capacitor (C1) and wherein the determined disconnection time information (DTI) is corrected in dependence on the effects of the IC material and/or on at least one radiation effect.
2. A method as claimed in claim 1, wherein the disconnection time information (DTI) is determined and corrected on the basis of the discharge behavior of the at least one first storage capacitor (C1) and on the basis of the discharge behavior of a second storage capacitor (C2) of the integrated circuit (2), wherein a renewed charging of the at least one first storage capacitor (C1) is prevented from a second starting time (t2) following the first starting time (t1), from which second starting time (t2) an adequate supply is re-established, to a determination time (t4), and wherein the second storage capacitor (C2) is charged from the second starting time (t2), and wherein the second storage capacitor (C2) is discharged from a third starting time (t3) following the second starting time (t2), and wherein the discharge voltage of the at least one first storage capacitor (C1) is compared to the discharge voltage of the second storage capacitor (C2) at the determination time (t4) following the third starting time (t3), and wherein the disconnection time information (DTI) is determined in dependence on a result of the comparison.
3. A method as claimed in claim 1, wherein the disconnection time information (DTI) is determined and corrected on the basis of the discharge behavior of the at least one

first storage capacitor (C1), wherein the first storage capacitor (C1) is charged from a second starting time (t2) following the first starting time (t1), from which second starting time (t2) an adequate supply is re-established, and wherein the first storage capacitor (C1) is discharged from a third starting time (t3) following the second starting time (t2), and wherein the
5 discharge voltage of the first storage capacitor (C1) is compared to the discharge voltage of the second storage capacitor (C2) present at the second starting time (t2) at the determination time (t4) following the third starting time (t3), and wherein the disconnection time information (DTI) is determined in dependence on a result of the comparison.

10 4. A method as claimed in any one of the claims 1 to 3, wherein the disconnection time information (DTI) is used to decide whether the data carrier (1) is to respond to certain prompt commands of the communication partner device.

5. An integrated circuit (2) of a data carrier (1) designed for contactless
15 communication with a communication partner device, comprising a first charging circuit (8) for charging at least one first storage capacitor (C1) of the integrated circuit (2) while the integrated circuit (2) is being adequately supplied by means of a power supply field, and comprising a first discharge circuit (9) for discharging the first storage capacitor (C1) following a no longer adequate supply of the integrated circuit (2) from a first starting time
20 (t1), wherein the discharge behavior of the at least one storage capacitor (C1) is affected by the IC material and by at least one radiation effect, and comprising determination means (12, 18, 19; 22, 24) for determining a disconnection time information (DTI) which is significant for a disconnection period (DT), in which disconnection period (DT) an integrated circuit (2) has not been adequately supplied with power, the disconnection time information (DTI)
25 being determined on the basis of the discharge behavior of the at least one first storage capacitor (C1), which is affected by the IC material and by at least one radiation effect, so that the disconnection time information (DTI) is available from a determination time (t4), and comprising correction means for the correction of the determined disconnection time information (DTI) in dependence on the effects of the IC material and/or the at least one
30 radiation effect.

6. An integrated circuit (2) as claimed in claim 5, wherein a renewed charging of the at least one first storage capacitor (C1) is prevented with the aid of the determination means from a second starting time (t2) following the first starting time (t1), from which

second starting time (t2) an adequate supply is re-established, to a determination time (t4), and wherein a second storage capacitor (C2) is provided, and wherein a second charging circuit (10) is provided for charging the second storage capacitor (C2) from the second starting time (t2), and wherein a second discharge circuit (11) is provided for discharging the second storage capacitor (C2) from a third starting time (t3) following the second starting time (t2), wherein the discharge behavior of the second storage capacitor (C2) is affected by the IC material and by the at least one radiation effect, and wherein the determination means (12) are designed for comparing the discharge voltage of the at least one first storage capacitor (C1) to the discharge voltage of the second storage capacitor (C2) at the determination time (t4) following the third starting time (t3) and for determining the disconnection time information (DTI) in dependence on a result of the comparison.

7. An integrated circuit (2) as claimed in claim 5, wherein a renewed charging of the at least one first storage capacitor (C1) can be started with the aid of the determination means (6, 22, 24) from a second starting time (t2) following the first starting time (t1), from which second starting time (t2) an adequate supply is re-established, and wherein the first discharge circuit (9) is provided for discharging the first storage capacitor (C1) from a third starting time (t3) following the second starting time (t2), wherein the determination means (12) are designed for comparing the discharge voltage of the first storage capacitor (C1) to the discharge voltage of the first storage capacitor (C1) present at the second starting time (t2) at the determination time (t4) following the third starting time (t3) and for determining the disconnection time information (DTI) in dependence on a result of the comparison.

8. An integrated circuit (2) as claimed in claim 6, wherein the capacitance of the at least one first storage capacitor (C1) corresponds to a multiple of the capacitance of the second storage capacitor (C2).

9. An integrated circuit (2) as claimed in claim 6 or 8, wherein the at least one first storage capacitor (C1) and the second storage capacitor (C2) are arranged immediately adjacent to one another in the integrated circuit (2).

10. A data carrier for contactless communication with a communication partner device, which data carrier is provided with an integrated circuit (2) as claimed in any one of the claims 5 to 9.